



DIGISOL®



Manufacturing Since 1986

Quick Installation Guide

XPON ONU 300Mbps Wireless Router with 1 PON, 1 GE + 1 FE LAN Port and 1 FXS Port

DG-GR1321

V1.2
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Overview

1:1 Product Description

Thank you for choosing DG-GR1321 ONU. The terminal devices are designed for fulfilling FTTH and triple play service demand of fixed network operators or cable operators. The device is based on mature GPON and Gigabit EPON technology, which has high ratio of performance to price, and the technology of 802.11n WiFi (2T2R), Layer 2/3, and high quality VoIP for different service. And it is fully compliant with GPON and EPON technical regulations such as ITU-T G.984.x & IEEE802.3ah. DG-GR1321 is a dual mode ONU which can detect and exchange PON mode automatically.



Figure 1

1:2 Application Chart

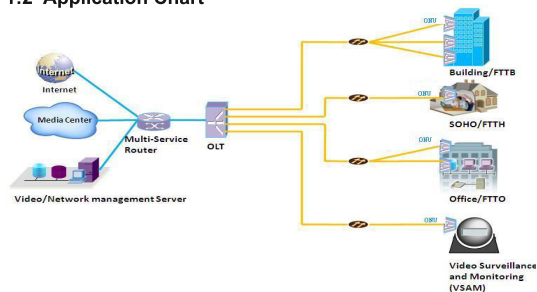


Figure 2

1:3 Technical Parameters

Technical item	DG-GR1321
PON interface	1 GPON/EPON connector, SC single-mode/single-fiber, GPON: uplink 1.25Gbps, downlink 2.5Gbps; EPON: symmetric 1.25Gbps
Wavelength	Tx:1310nm, Rx:1490nm
Optical interface	SC connector
LAN interface	1* 10/100/1000Mbps and 1*10/100Mbps auto adaptive Ethernet interfaces (RJ45). 1* POTS (RJ11).
Wireless	Compliant with IEEE802.11b/g/n, 300Mbps, 2T2R two external antennas.
LED	8 indicators for status of POWER, PON, LOS, LAN2, LAN1, TEL, Pair, WiFi
Operating condition	Temperature: -5°C ~ +55°C Humidity: 10% ~ 90% (non-condensing)
Storing condition	Temperature: -30°C ~ 60°C Humidity: 10% ~ 90% (non-condensing)
Power supply	DC 12V/1A
Power consumption	≤6W
Dimension	185mm×120mm×34mm (L×W×H)
Net weight	0.24Kg

1:4 Package Content

Contents	Quantity
ONU	1 PCS
Power Adapter	1 PCS
QIG	1 PCS

1:5 Panel Description



Figure 3

Name	Function
PON	Connect GPON or EPON port with internet by SC type, single mode optical fiber cable.
TEL	Connect the telephone with TEL port by telephone wire.
LAN1 / LAN2	Connect PC to device Ethernet port by RJ-45 cable.
Pair (Wireless Pair)	Press down Wi-Fi pair button for WPS function.
WiFi	Press down Wi-Fi button to enable/disable Wi-Fi function.
RST	Press down reset button to make the device restart and recover with factory default settings.
PWR	To connect power adapter.

1:6 Indication Panel

PWR PON LOS LAN2 LAN1 TEL PAIR WIFI

Figure 4

Name	Status	Description
PWR	OFF	Power is not supplied
	ON	Power is supplied
PON	OFF	Device is not registered to OLT
	ON	Device has been registered to OLT
	FLASH	Device registered incorrect
LOS	OFF	Received optical power is normal
	FLASH	Received optical power is lower than the sensitivity of the optical receiver
LAN1/LAN2	OFF	Device is power off or Ethernet link is not established
	ON	Ethernet link is established but without ongoing data
	FLASH	The port is transmitting data
TEL	OFF	Device is power off or not registered to the soft-switch
	ON	Device has registered to the soft-switch
	FLASH	The port is working
PAIR	OFF	Does not use WPS or WPS client is connected (LED turn off after 5 minutes of successful connection)
	ON	WPS client is connected (LED turn off after 5 minutes of successful connection)
	FLASH	WPS client is connecting.
Wi-Fi	OFF	WiFi is turned off.
	ON	WiFi is turned on.
	FLASH	WiFi is turned on and with ongoing data transmission

Installation

2:1 Installation Requirements

1. Connecting the optical fiber cable to the unit.
 - a) Remove the protective cap of the optical fiber.
 - b) Clean the end of the optical fiber with an optical fiber end cleaner.
 - c) Remove the protective cap of the ONU optical interface (PON interface). Connect the fiber to the PON port of the unit.

Note: When measuring the optical power before connecting to the ONU, it is recommended to use a PON Inline Power Meter.

While connecting, please note:

- Keep the optical connector and the optical fiber clean.
 - Make sure there are no tight bends in the fiber and that the bending diameter is greater than 6cm. Otherwise, the optical signal loss may be increased, to the extent that signal may be unavailable.
 - Cover all optic ports and connectors with protective cap to guard against dust and moisture when the fiber is not used.
2. Apply power to the unit. Push the power button.
 3. After the device is power ON, Indicators should light up as for normal operation. Check whether the PON interface status LED (PON) is ON continuously. If it is, the connection is normal; otherwise there is either problem of the physical connection or the optical level at either end. This may be caused by either too much or too little attenuation over the optical fiber. Please refer to the LED indication panel section of this installation guide for normal LED activity.
 4. Check all signal levels and services on all the communication ports.

Unit Installation Adjustment

Installing the ONU on a horizontal surface (Bench top)

Put the ONU on a clean, flat, sturdy bench top. You must keep the clearance for all sides of the unit to more than 10cm for heat dissipation.

Installing the ONU on a vertical surface (Hanging on a wall)

You can install the ONU on a vertical surface by using the mounting holes on the bottom of the ONU chassis and two flat-head wood screws.

- a) Insert the screws into the wall. The screw positions must be in the same horizontal line and the distance between them must be 165mm. Reserved at least 6mm between the screw caps and the wall.
- b) Hang the ONU on the screws through the mounting holes.

2:2 Set Up Connection

Set Up Wired Connection

Connect PC with ONU Ethernet port by RJ-45 cable. The PC will receive the IP automatically from the ONU DHCP server in the range of 192.168.1.x/24. Then access the ONU using IP address 192.168.1.1 with Username: **admin** / Password: **Digisol@321**

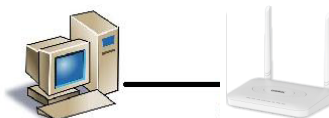


Figure 5

Set Up Wireless Connection

Choose the wireless network name (SSID) "DIGISOL", default security mode is WPA2 mixed, password is 12345678. The PC will receive the IP automatically from the ONU DHCP server in the range of 192.168.1.x/24. Then access the ONU using IP address 192.168.1.1 with Username: **admin** / Password: **Digisol@321**



Figure 6

Web Management

DG-GR1321 provides simple Web management functions, including Device Information, modify LAN Management IP address, LOID and Password, Configuration File backup and restore, firmware upgrade etc...

NOTE:

About More ONU Detail Configuration should be configured via CTC OAM Protocols from OLT.

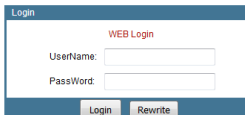
3:1 Default configuration

The following is the default device configuration information.

- Local (LAN access) Username: **admin** / Password: **Digisol@321**
- LAN port management IP address: **192.168.1.1/24**

3:2 Default configuration

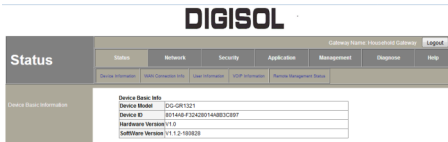
Figure 7 Web Login



The image shows a web login interface. At the top, it says 'Login' in a blue box. Below that, 'WEB Login' is written in red. There are two input fields: 'UserName:' and 'PassWord:'. At the bottom, there are two buttons: 'Login' and 'Rewrite'.

Web login default username: admin, password: Digisol@321

Figure 8 Device Information



The image shows the DIGISOL web management interface. At the top, the 'DIGISOL' logo is displayed. Below it, there is a navigation bar with tabs: 'Status', 'Network', 'Security', 'Application', 'Management', 'Diagnose', and 'Help'. The 'Status' tab is selected. Under the 'Status' tab, there are sub-tabs: 'Device Information', 'ONU Connection Info', 'User Information', 'VLAN Information', and 'Remote Management Status'. The 'Device Information' sub-tab is selected. The main content area displays 'Device Basic Information' with the following details:

Device Basic Info	
Device Model	DG-GR1321
Device ID	801440-F324280144803C89F
Hardware Version	V1.0
Software Version	V1.1.2-193825

Device Info Menu displays the current device base information, including Hardware Version, Software Version, Model no.

Figure 9 WAN Status

The screenshot shows the 'WAN Status' page. The top navigation bar includes 'Status', 'Network', 'Security', 'Application', 'Management', 'Diagnose', and 'Help'. The 'Status' section is active, showing 'WAN info' and 'Network info'.

WAN info

Interface	VLAN ID	Protocol	KMP	Status	IP Address	Network
1_TR069_R_VID_46	46	IPv4	Enable	down	99T	

Network info

Service Interface	Default Gateway	Primary DNS	Secondary DNS
1_TR069_R_VID_46			

WAN info displays the status of all WAN connection and the network information.

Figure 10 WAN Connection

The screenshot shows the 'WAN Configuration' page. The top navigation bar includes 'Status', 'Network', 'Security', 'Application', 'Management', 'Diagnose', and 'Help'. The 'Network' section is active, showing 'WAN Configuration'.

WAN Configuration

Connection Name: 1_TR069_R_VID_46

Mode: Route

IP Protocol Mode: IPv4

☒ DHCP: Get an address from ISP

☐ Static: Get a static IP address from ISP

☐ PPPoE: Select this when using PPPoE

Enable Vlan: ☒

Vlan ID: 46

802.1p: 7

MTU: 1500

Request DNS: ☒ Enable

☐ Disable

Primary DNS:

Secondary DNS:

Service Mode: TR069

Turn off LAN DHCP: ☒

Configure the WAN connection as per the ISP specified. Create DHCP/Static/PPPoE connection.

Figure 11 LAN Settings

The screenshot shows a web interface for configuring a Gateway. The top navigation bar includes 'Gateway Name: Household Gateway' and a 'Logout' button. Below this is a 'Network' section with tabs for 'Status', 'Network', 'Security', 'Application', 'Management', 'Diagnose', and 'Help'. The 'Network' tab is active, showing a sub-menu with 'Home', 'Setting', 'LAN IP Address', 'IPv6', 'Remote', 'QoS Configuration', 'QoS', 'Time', and 'Route'. The 'LAN IP Address' option is selected.

LAN Settings

Configure the IP address and subnet mask of the LAN access ports of the CPE. Click "Save/Apply" button to save the LAN configuration.

IP Address: 192.168.1.1
Subnet Mask: 255.255.255.0

☐ Disable DHCP Server
☒ Enable DHCP Server
Start IP Address: 192.168.1.2
End IP Address: 192.168.1.254
Lease Time: One Day

☒ Auto DNS
☐ Manual DNS
DNS1:
DNS2:

☐ Enable DHCP Proxy
DHCP Server IP Address: 172.19.31.4

[Edit Reserved IP Address](#)

[Save/Apply](#)

IP address and Subnet Mask: LAN port IP address and mask

DHCP option: Enable or disable the DHCP server and configure the IP address pool, DNS, etc

NOTE: DHCP server changes take effect after the device is restarted.

Figure 12 WLAN Settings

Network

- WLAN Basic
- WLAN Advanced
- WLAN Security
- WPS Configuration

Gateway Name: Household Gateway [Logout](#)

Status	Network	Security	Application	Management	Diagnose	Help
Home	Status	WLAN	Network	WPS Configuration	QoS	Tools

This page is used to configure the parameters for WLAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.

☐ Disable WLAN Interface
 ☐ Block WLAN Access to Web

Band: 2.4 GHz (B+G+N)
 Mode: AP
 SSID: DIGISOL
 Disable Broadcast:
 Block Relay:
 WMM:
 SOI:
 Channel Width: 20MHz
 Channel Number: Auto
 Current Channel: 11
 Client Number: Disable
 Associated Clients: [Show Active WLAN Clients](#)

Apply Changes

Network

- WLAN Basic
- WLAN Advanced
- WLAN Security
- WPS Configuration

Gateway Name: Household Gateway [Logout](#)

Status	Network	Security	Application	Management	Diagnose	Help
Home	Status	WLAN	Network	WPS Configuration	QoS	Tools

WLAN Security Settings

SSID Type: DIGISOL

Encryption: WPA2 Mixed
 Authentication Mode: Enterprise (RADIUS) Personal (Pre-Shared Key)
 WPA Cipher Suite: TKIP AES
 WPA2 Cipher Suite: TKIP AES
 Group Key Update Timer: 86400
 Pre-Shared Key Format: Passphrase
 Pre-Shared Key:

Apply Changes

WLAN basic displays the current configuration information. Modify these parameters to change WiFi basic features.

Security is used to set up encryption for each SSID and WPS function.

Figure 13 Device Management

Upgrade

The screenshot shows the 'Management' interface for a 'Household Gateway'. The top navigation bar includes 'Status', 'Network', 'Security', 'Application', 'Management' (selected), 'Diagnose', and 'Help'. Below this is a sub-navigation bar with 'User Management', 'Device Management' (selected), 'Log File', and 'Monitor'. The main content area is titled 'Upgrade' and contains the text: 'You can upgrade this device. Please keep the power on, or this device will be damaged.' Below this text are three buttons: 'Browse...', 'No file selected.', and 'Start'. There are also 'Reset' and 'Others' buttons.

Firmware upgrade Menu displays the current equipment upgrades related information.

Configuration File Management

The screenshot shows the 'Management' interface for a 'Household Gateway'. The top navigation bar includes 'Status', 'Network', 'Security', 'Application', 'Management' (selected), 'Diagnose', and 'Help'. Below this is a sub-navigation bar with 'User Management', 'Device Management' (selected), 'Log File', and 'Monitor'. The main content area is titled 'Config Management' and contains the text: 'You can upload and down load config file'. Below this text is a 'Download' button. There is also a 'Upload' button. Below the 'Upload' button is the text: 'Upload: Upload custom config file. Configuration will be covered by restoring to default.' Below this text is the text: 'Upload As Default: Upload custom config file as default setting. Device will auto reboot after upload success. If not, reboot Device to take effect.' Below this text are four buttons: 'Browse...', 'No file selected.', 'Upload', and 'Upload As Default'.

To download or restore the configuration file.

Troubleshooting

1. All indicators are not lit

Reasons:

- 1) Power connection errors;
- 2) Power is not normal.

Solution:

- 1) Check that the power cable is connected;
- 2) The rear panel of the power supply is turned on.

2. GE / FE led does not light?

Reasons:

- 1) Network cable is damaged or loose connection;
- 2) Cable type error; 3) Long lines outside the allowable range.

Solution:

- 1) Replace the network cable, and pay attention to the standard Ethernet cable must be parallel or crossing lines.

3. After working for some time to stop working?

Reasons:

- 1) Power supply is not working properly;
- 2) The equipment from overheating.

Solution:

- 1) Check if there is contact with abnormal voltage is too high or too low;
- 2) Check the ambient conditions, vents are normal ventilation.

4. LOS led flashes?

Reasons:

- 1) Fiber failure;
- 2) Central office equipment failure.

Solution:

- 1) Inspect fiber is connected properly, is connected to the correct connector, optical power is normal.
- 2) Contact your operator.

5. PON led flashes?

Reasons:

- 1) Fiber optic connector is loose;
- 2) Central office equipment failure;
- 3) Fiber optic connectors are dust.

Solution:

- 1) Inspect fiber is connected properly;
- 2) Cotton ball with alcohol swabbing fiber optic connectors;
- 3) Contact your operator.



WARRANTY

This Product is covered under DIGISOL Warranty program backed by DIGISOL Service Center. To avail this Warranty offer, customer needs to contact DIGISOL's Technical Assistance Center for the same. You may be asked to provide proof of purchase of product for warranty claim of defective product. Please refer website www.digisol.com for the detailed support terms & conditions and support process.

Warranty Policy

1. **Hardware Warranty :** Hardware warranty period shall be limited up to Three years. External Power Adapter shall carry One year warranty only against manufacturing defects. Any repair or replacement will be rendered by DIGISOL at its Service Center only.
2. **Software Warranty :** DIGISOL issues this Limited Software Warranty that the software portion of the product ("Software") will substantially confirm to DIGISOL's then current functional specifications for the software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of one year ("Software Warranty period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation.
3. **Governing Law:** This warranty shall be governed by Indian Laws.
4. **Warranty shall subject to the terms & conditions specified in the DIGISOL Product Warranty policy displayed on www.digisol.com**
5. **To avail and activate warranty for your product.**
Kindly register your product by calling us @1800 209 3444

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